Discussion of material on the Photographic Film Strips.

FIIM STRIP NO. 1 [redacted] STAT

Single receiver tuned to [redacted] STAT .Top scope beam fed from receiver audio output and bottom beam from the I.F. output. The film enables a comparison between these waveforms with reference to measurements along the time axis. Note that gain is a little high on the audio wave for with the result that the depth of the waveform excursions is a little greater than those on the envelope IF waveform. It would seem that gain adjustments will be a critical factor in producing waveforms amenable to accurate measurements. Note yhat the audio waveform fits (approx.) the negative peaks of the IF here.

FIIM STRIP NO. 2 [redacted] STAT

This represents two stations, geographically displaced but carrying the same program. Both stations are close enough to the receiving point [redacted] STAT to allow ground wave reception. One receiver is tuned to [redacted] STAT on 1.23 MC (Top beam) and the other receiver to [redacted] STAT on 1.43 Mc. (Call letters respectively [redacted] STAT

Note that in this reception of fairly close stations by ground wave , the wave forms are almost exactly alike (there are easily detectable slight differences however). This contrasts with later films showing reception of distant stations by layer reflection, where the waveforms beging to be distorted and take on radical dissimilarities.

Points marked on the top portion of each waveform in blue ink represent the same point of each waveform and the distance between these marked points represents delay which delay is probably a combination of ionosphere and landline effects.

Note that on this filmthese distances (peak to similar peak) are not constant and vary as one goes along the time axis. One can infer that the delay varies and that this variation might be due to variations in [redacted] transmission times. Confirmation is needed for this statement and it would be an important point to pin down.

FILM STRIP NO. 3 [redacted] STAT

These stations are farther away and reception is probably by layer reflection. [redacted] STAT air distances) Note that with this greater distance and reception by reflection from the ionosphere the waveforms begin to lose the close similarity seen on the filmstrip above (no. 2) and common points on the waveform could become difficult to pin down with a real degree of accuracy.

(Cont'd)

Once again the peak to similar peak distances along the film do not remain constant.

FILM STRIP NO. 4 [redacted] STAT

This shot is taken from the receivers IF output. Reception is probably by ionosphere reflection [redacted] STAT
[redacted] approx airline.) STAT

Waveform similarity is quite good here and it would seem that the IF waveform is easier to interpret for similar points on the waveform. However the audio waveform may be more effective for accurate measurements.

FILM STRIP NO. 5 [redacted] STAT

Reception here is by layer reflection. These audio waveforms apparently afford no similar points along their length, thought both stations are carrying exactly the same program. The bottom waveform changes radically also in amplitude during the time interval photographed increasing to practically double the amplitude in the middle of the film strip. This is probably a fade in due to transmission path phenomena. This is the [redacted] STAT station. The [redacted] STAT station amplitude remains fairly constant.